

## REMARKS

This paper is responsive to a non-final Office action dated August 18, 2004. Claims 1-23 were examined and stand rejected under 35 U.S.C. 102(b) as anticipated by Michail (U.S. Pat. No. 6,119,241). By way of the present amendment, claims 8-10, and 12-13 and 23 are being cancelled and new claims 24-27 are being added. Reconsideration is respectfully requested in view of the amendments and remarks herein.

With respect to amended claim 1, applicants respectfully submit that Michail fails to teach switching to a second performance state as the maximum performance state when the temperature associated with the integrated circuit exceeds a first temperature threshold and switching back to the first performance state as the maximum performance state when the temperature associated with the integrated circuit is determined to be below a second temperature threshold lower than the first temperature threshold. That is shown, for example, in Fig. 4. In contrast Michail teaches switching back and forth at the same temperature, e.g., between states 4 and 5 at the temperature  $T_{opt}$ . For at least that reason, applicants respectfully maintain that amended claim 1 and all claims dependent thereon distinguish over Michail.

With respect to claim 14 applicants respectfully submit that Michail fails to teach an integrated circuit that at a first detected temperature, has a first maximum performance state and a first plurality of lesser performance states; and wherein at a second detected temperature, higher than the first detected temperature, the integrated circuit has a lower maximum performance state and a second plurality of lesser performance states, the lower maximum performance state providing lower performance than the first maximum performance state in terms of maximum power consumption; and wherein the lower maximum performance state is one of the first plurality of lesser performance states. For example, in Michail, the top and only performance state in state 5 (where  $T > T_{opt}$  &  $< T_{switch}$ ) defined as AV/AC/UC is not a performance state available in other temperature ranges. Accordingly, applicants respectfully submit that amended claim 14 and all claims dependent thereon distinguish over Michail.

With respect to claim 20, applicants respectfully submit that Michail fails to teach a plurality of groups of performance operating states, wherein a maximum operating state of one group is available as an operating state in another group. In contrast, Michail teaches, e.g., that

the maximum and only operating state in state # 5 where the temperature  $T > T_{opt}$  &  $< T_{switch}$  is only available in that temperature range. Similarly the maximum operating state for  $T > T_{switch}$  is only available in that temperature range. Thus, applicants submit that amended claim 20 distinguishes over Michail.

With respect to claim 22, applicants respectfully submit that Michail fails to teach means for determining a temperature associated with a processor, the processor having a plurality of groups of performance states associated with each of a plurality of temperature ranges, each of the groups having a different maximum performance state and common lower performance states, and wherein a maximum operating state of one group of performance operating states is available as an operating state in another group. In contrast, Michail teaches, e.g., that the maximum and only operating state where the temperature  $T > T_{opt}$  &  $< T_{switch}$  in state # 5 and is only available in that temperature range. Similarly the maximum operating state for  $T > T_{switch}$  is only available in that temperature range and the maximum operating state (#4) for  $T < T_{opt}$  is only available in that temperature range. Thus, applicants submit that amended claim 22, and all claims dependent thereon, distinguish over Michail.

New claims 24-27 have been added. New claim 24 recites that the operating state of the integrated circuit is varied in each of the first, second, and third plurality of performance states according to integrated circuit utilization. Applicants respectfully submit that such a limitation is not taught in Michail. New claims 25-27 depend on claim 24 and therefore are also believed to distinguish over Michail.

In summary, claims 1-7, 11, 14-22, and 24-27 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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